IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered). Please AMEND claims 1, 4-9, 11, 13-15, 19-23, 27-31, 33, 35-37, 41-45, 49-53, 55, 57-59 and 63-66 and ADD new claims 67-72 in accordance with the following:

1. (CURRENTLY AMENDED) A ~~phase change~~ method of recording information on a phase change recording medium ~~by~~comprising: changing absorption coefficients of optical constants of a recording layer and a dielectric layer of the recording medium ~~by~~using laser induced reaction and diffusion.

2. (ORIGINAL) The method of claim 1, wherein the recording layer is formed of a rare earth transition metal.

3. (ORIGINAL) The method of claim 2, wherein the rare earth transition metal is TbFeCo.

4. (CURRENTLY AMENDED) The method of claim 41, wherein the recording layer is formed of alloys of rare earth metal and transition metal.

5. (CURRENTLY AMENDED) The method of ~~any one of~~ claims 1 ~~through 4~~, wherein the reaction and diffusion are induced at a temperature of at or between 490 and 580℃.

6. (CURRENTLY AMENDED) The method of ~~any one of~~ claims 1 ~~through 5~~, wherein, when ~~the dielectric layer of the recording medium is constructed as a sequential stack of~~ a protective dielectric layer ~~on the recording layer~~, a mask layer formed of Sb, and ~~a~~the dielectric layer are sequentially formed on the recording layer, laser light is radiated to induce reaction and diffusion in the recording layer and the protective dielectric layer and to induce change ~~the~~in a crystalline structure of the mask layer, so that information can be reproduced from the recording medium regardless of a diffraction limit.

7. (CURRENTLY AMENDED) The method of ~~any one of~~ claims ~~1 through 5~~, wherein, when ~~the dielectric layer of the recording medium is constructed as a sequential stack of~~ a protective dielectric layer, a mask layer formed of AgO_x ~~stacked~~, and ~~a~~the dielectric layer are sequentially stacked on the recording layer, laser light is radiated to induce reaction and diffusion in the recording layer and the protective dielectric layer and decompose the mask layer, so that information can be reproduced from the recording medium regardless of a diffraction limit.

8. (CURRENTLY AMENDED) The method of ~~any one of~~ claims ~~1 through 5~~, wherein the recording layer and the dielectric layer are simultaneously formed, so that the recording layer and the dielectric layer have a mixed structure including materials for the recording layer and the dielectric layer.

9. (CURRENTLY AMENDED) A ~~magneto-optical~~ method of recording information on a magneto-optical recording medium ~~by~~comprising: changing ~~the~~a magnetic spin direction in a recording layer while the recording layer and a dielectric layer of the recording medium are irradiated with laser to induce reaction and diffusion therein.

10. (ORIGINAL) The method of claim 9, wherein the recording layer and the dielectric layer are simultaneously formed, so that the recording layer and the dielectric layer have a mixed structure including materials for the recording layer and the dielectric layer.

11. (CURRENTLY AMENDED) The method of claim 9 ~~or 10~~, wherein the recording layer is formed of a rare earth transition metal.

12. (ORIGINAL) The method of claim 11, wherein the rare earth transition metal is TbFeCo.

13. (CURRENTLY AMENDED) The method of claim 9 ~~or 10~~, wherein the recording layer is formed of alloys of rare earth metal and transition metal.

14. (CURRENTLY AMENDED) The method of ~~any one of~~ claims ~~9 through 13~~, wherein the reaction and diffusion are induced at a temperature of at or between 400~~-~~ and 490℃.

15. (CURRENTLY AMENDED) A method of recording information on a recording medium based on ~~the~~ physical properties of protruding record marks ~~formed by~~ comprising laser ~~induced~~inducing reaction and diffusion in a recording layer and a dielectric layer of the recording medium.

16. (ORIGINAL) The method of claim 15, wherein the recording layer is formed of a rare earth transition metal.

17. (ORIGINAL) The method of claim 16, wherein the rare earth transition metal is TbFeCo.

18. (ORIGINAL) The method of claim 15, wherein the recording layer is formed of alloys of rare earth metal and transition metal.

19. (CURRENTLY AMENDED) The method of ~~any one of~~ claims ~~15 through 18~~, wherein the reaction and diffusion are induced at a temperature of at or between 400℃ and 490℃.

20. (CURRENTLY AMENDED) The method of ~~any one of~~ claims ~~15 through 19~~, wherein, when ~~the dielectric layer of the recording medium is constructed as a sequential stack of~~ a protective dielectric layer, a mask layer formed of Sb, and ~~a~~the dielectric layer are sequentially stacked on the recording layer, laser light is radiated to induce reaction and diffusion in the recording layer and the protective dielectric layer and ~~change the~~a change in a crystalline structure of the mask layer, so that information can be reproduced from the recording medium regardless of a diffraction limit.

21. (CURRENTLY AMENDED) The method of ~~any one of~~ claims ~~15 through 19~~, wherein, when ~~the dielectric layer of the recording medium is constructed as a sequential stack of~~ a protective dielectric layer, a mask layer formed of AgO_x ~~stacked~~, and ~~a~~the dielectric layer are sequentially stacked on the recording layer, laser light is radiated to induce reaction and diffusion in the recording layer and the protective dielectric layer and decompose the mask layer, so that information can be reproduced from the recording medium regardless of a diffraction limit.

22. (CURRENTLY AMENDED) The method of ~~any one of~~ claims ~~15 through 19~~, wherein the recording layer and the dielectric layer are simultaneously formed, so that the recording layer and the dielectric layer have a mixed structure including materials for the recording layer and the dielectric layer,

23. (CURRENTLY AMENDED) A recording medium ~~recorded on using a phase change method of~~comprising:

a recording layer and a dielectric layer having ~~changing~~ absorption coefficients of optical constants ~~of a recording layer and a dielectric layer of the recording medium by~~using laser induced reaction and diffusion.

24. (ORIGINAL) The recording medium of claim 23, wherein the recording layer is formed of a rare earth transition metal.

25. (ORIGINAL) The recording medium of claim 24, wherein the rare earth transition metal is TbFeCo.

26. (ORIGINAL) The recording medium of claim 23, wherein the recording layer is formed of alloys of rare earth metal and transition metal.

27. (CURRENTLY AMENDED) The recording medium of ~~any one of~~ claims 23 ~~through 26~~, wherein the reaction and diffusion are induced at a temperature of 490-580℃.

28. (CURRENTLY AMENDED) The recording medium of ~~any one of~~ claims 23 ~~through 27~~, wherein the dielectric layer is constructed as a sequential stack of a protective dielectric layer, a mask layer formed of Sb, and ~~a~~the dielectric layer formed on the recording layer, and laser light is radiated to induce reaction and diffusion in the recording layer and the protective dielectric layer and ~~change the~~change a crystalline structure of the mask layer, so that information can be reproduced from the recording medium regardless of a diffraction limit.

29. (CURRENTLY AMENDED) The recording medium of ~~any one of~~ claims ~~1 through 5~~, wherein the dielectric layer is constructed as a sequential stack of a protective dielectric layer, a mask layer formed of AgO_x ~~stacked~~, and ~~a~~the dielectric layer formed on the recording layer, and laser light is radiated to induce reaction and diffusion in the recording layer and the protective dielectric layer and decompose the mask layer, so that information can be reproduced from the recording medium regardless of a diffraction limit.

30. (CURRENTLY AMENDED) The recording medium of ~~any one of~~ claims 23 ~~through 27~~, wherein the recording layer and the dielectric layer are simultaneously formed, so that the recording layer and the dielectric layer have a mixed structure including materials for the recording layer and the dielectric layer.

31. (CURRENTLY AMENDED) A recording medium ~~recorded on using a magneto-optical method of~~comprising:

a recording layer and a dielectric layer, wherein the recording layer has a material with a changeable ~~changing the~~ magnetic spin ~~in a recording layer~~ while the recording layer and ~~a~~the dielectric layer of the recording medium are irradiated with laser ~~to induce~~inducing reaction and diffusion ~~therein~~of the recording medium.

32. (ORIGINAL) The recording medium of claim 31, wherein the recording layer and the dielectric layer are simultaneously formed, so that the recording layer and the dielectric layer have a mixed structure including materials for the recording layer and the dielectric layer.

33. (CURRENTLY AMENDED) The recording medium of claim 31 ~~or 32~~, wherein the recording layer is formed of a rare earth transition metal.

34. (ORIGINAL)The recording medium of claim 33, wherein the rare earth transition metal is TbFeCo.

35. (CURRENTLY AMENDED) The recording medium of claim 31 ~~or 32~~, wherein the recording layer is formed of alloys of rare earth metal and transition metal.

36. (CURRENTLY AMENDED) The recording medium of ~~any one of~~ claims 31 ~~through 35~~, wherein the reaction and diffusion are induced at a temperature of at or between 400 and ~~-~~490℃.

37. (CURRENTLY AMENDED) A recording medium on which data is recorded comprising:

~~recoded on using a method based on the physical properties of protruding record marks, formed by~~

a recording layer and a dielectric layer, the recording layer having protruding record marks formed by laser ~~induced~~inducing reaction and diffusion in ~~a~~the recording layer and ~~a~~the dielectric layer.

38. (ORIGINAL) The recording medium of claim 37, wherein the recording layer is formed of a rare earth transition metal.

39. (ORIGINAL) The recording medium of claim 38, wherein the rare earth transition metal is TbFeCo.

40. (ORIGINAL) The recording medium of claim 37, wherein the recording layer is formed of alloys of rare earth metal and transition metal.

41. (CURRENTLY AMENDED) The recording medium of ~~any one of~~ claims 37 ~~through 40~~, wherein the reaction and diffusion are induced at a temperature of at or between 400 and ~~-~~490℃.

42. (CURRENTLY AMENDED) The recording medium of ~~any one of~~ claims 37 ~~through 41~~, wherein the dielectric layer is constructed as a sequential stack of a protective dielectric layer, a mask layer ~~formed~~made of Sb, and a dielectric layer formed on the recording layer, and laser light is radiated to induce reaction and diffusion in the recording layer and the protective dielectric layer and change ~~the~~ a crystalline structure of the mask layer, so that information can be reproduced from the recording medium regardless of a diffraction limit.

43. (CURRENTLY AMENDED) The recording medium of ~~any one of~~ claims 37 ~~through 41~~, wherein the dielectric layer is ~~contructed~~constructed as a sequential stack formed of a protective dielectric layer, a mask layer ~~formed~~made of AgO_x, and ~~a~~the dielectric layer formed on the recording layer, and laser light is radiated to induce reaction and diffusion in the recording layer and the protective dielectric layer and decompose the mask layer, so that information can be reproduced from the recording medium regardless of a diffraction limit.

44. (CURRENTLY AMENDED) The recording medium of ~~any one of~~ claims 37 ~~through 41~~, wherein the recording layer and the dielectric layer are simultaneously formed, so that the recording layer and the dielectric layer have a mixed structure including materials for the recording layer and the dielectric layer,

45. (CURRENTLY AMENDED) An apparatus for recording and/or reproducing information ~~on~~with respect to a recording medium ~~by a phase change method of~~comprising:

a controller to transfer data with respect to the recording medium using a phase change method; and

a light source controlled by the controller to ~~changing~~change absorption coefficients of optical constants of a recording layer and a dielectric layer of the recording medium by a laser induced reaction and diffusion and reproducing the recorded information from the recording medium.

46. (ORIGINAL) The apparatus of claim 45, wherein the recording layer of the recording medium is formed of a rare earth transition metal.

47. (ORIGINAL) The apparatus of claim 46, wherein the rare earth transition metal is TbFeCo.

48. (ORIGINAL) The apparatus of claim 45, wherein the recording layer of the recording medium is formed of alloys of rare earth metal and transition metal.

49. (CURRENTLY AMENDED) The apparatus of ~~any one of~~ claims ~~45 through 48~~, wherein the reaction and diffusion in the recording medium are induced at a temperature of at or between 490 ~~-~~and 580℃.

50. (CURRENTLY AMENDED) The apparatus of ~~any one of~~ claims ~~45 through 49~~, wherein, when the dielectric layer of the recording medium is constructed as a sequential stack of a protective dielectric layer, a mask layer ~~formed~~made of Sb, and ~~a~~the dielectric layer formed on the recording layer, information is recorded by laser irradiation ~~to induce~~inducing reaction and diffusion in the recording layer and the protective dielectric layer and ~~change the~~changing a crystalline structure of the mask layer, so that the recorded information can be reproduced regardless of a diffraction limit.

51. (CURRENTLY AMENDED) The apparatus of ~~any one of~~ claims ~~45 through 49~~, wherein, when the dielectric layer of the recording medium is constructed as a sequential stack of a protective dielectric layer, a mask layer formed of AgO_x, and ~~a~~the dielectric layer formed on the recording layer, information is recorded by laser irradiation ~~to induce~~inducing reaction and diffusion in the recording layer and the protective dielectric layer and ~~decomposed~~decomposing the mask layer, so that the recorded information can be reproduced regardless of a diffraction limit.

52. (CURRENTLY AMENDED) The apparatus of ~~any one of~~ claims ~~45 through 49~~, wherein the recording layer and the dielectric layer are simultaneously formed, so that the recording layer and the dielectric layer have a mixed structure including materials for the recording layer and the dielectric layer.

53. (CURRENTLY AMENDED) An apparatus for recording and/or reproducing information on a recording medium ~~by a magneto-optical method of~~comprising:

a controller to transfer data with respect to the recording medium using a magneto-optical method; and

a light source controlled by the controller to ~~changing the~~change a magnetic spin direction in a recording layer while the recording layer and a dielectric layer of the recording medium are irradiated with a laser to induce reaction and diffusion therein and reproducing the recorded information from the recording medium.

54. (ORIGINAL) The apparatus of claim 53, wherein the recording layer and the dielectric layer of the recording medium are simultaneously formed, so that the recording layer and the dielectric layer have a mixed structure including materials for the recording layer and the dielectric layer.

55. (CURRENTLY AMENDED) The apparatus of claim 53 ~~or 54~~, wherein the recording layer of the recording medium is formed of a rare earth transition metal.

56. (ORIGINAL) The apparatus of claim 55, wherein the rare earth transition metal is TbFeCo.

57. (CURRENTLY AMENDED) The apparatus of claim 53 ~~or 54~~, wherein the recording layer of the recording medium is formed of alloys of rare earth metal and transition metal.

58. (CURRENTLY AMENDED) The apparatus of ~~any one of~~ claims 53 ~~through 57~~, wherein the reaction and diffusion in the recording medium are induced at a temperature of 400-490℃.

59. (CURRENTLY AMENDED) An apparatus for recording information on a recording medium ~~using a method based on the~~using physical properties of~~(?of forming)~~ protruding record marks formed by a laser on the recording medium ~~induced~~comprising:

a controller to transfer data with respect to the recording medium using the physical properties; and

a light source controlled by the controller to induce reaction and diffusion in a recording layer and a dielectric layer and reproducing the recorded information from the recording medium.

60. (ORIGINAL) The apparatus of claim 59, wherein the recording layer of the recording medium is formed of a rare earth transition metal.

61. (ORIGINAL) The apparatus of claim 60, wherein the rare earth transition metal is TbFeCo.

62. (ORIGINAL) The apparatus of claim 59, wherein the recording layer of the recording medium is formed of alloys of rare earth metal and transition metal.

63. (CURRENTLY AMENDED) The apparatus of ~~any one of~~ claims ~~59 through 62~~, wherein the reaction and diffusion in the recording medium are induced at a temperature of at or between 400 ~~-~~and 490℃.

64. (CURRENTLY AMENDED) The apparatus of ~~any one of~~ claims ~~59 through 63~~, wherein, when the dielectric layer of the recording medium is constructed as a sequential stack of a protective dielectric layer, a mask layer ~~formed~~made of Sb, and ~~a~~the dielectric layer formed on the recording layer, information is recorded by laser irradiation ~~to induce~~inducing reaction and diffusion in the recording layer and the protective dielectric layer and ~~change~~changing ~~the~~a crystalline structure of the mask layer, so that the recorded information can be reproduced regardless of a diffraction limit.

65. (CURRENTLY AMENDED) The apparatus of ~~any one of~~ claims ~~59 through 63~~, wherein, when the dielectric layer of the recording medium is constructed as a sequential stack of a protective dielectric layer, a mask layer ~~formed~~made of AgO_x, and ~~a~~the dielectric layer formed on the recording layer, information is recorded by laser irradiation ~~to induce~~inducing reaction and diffusion in the recording layer and the protective dielectric layer and decompose~~ing~~ the mask layer, so that the recorded information can be reproduced regardless of a diffraction limit.

66. (CURRENTLY AMENDED) The apparatus of ~~any one of~~ claims ~~59 through 63~~, wherein the recording layer and the dielectric layer are simultaneously formed, so that the recording layer and the dielectric layer have a mixed structure including materials for the recording layer and the dielectric layer.

67. (NEW) A recording medium comprising:

a reflective layer;

a first dielectric layer formed on the reflective layer;

a recording layer formed on the dielectric layer;

a second dielectric layer formed on the recording layer; and

a transparent polycarbonate layer formed on the second dielectric layer, wherein the recording layer forms sulfides or oxides when heated by a laser beam.

68. (NEW) The recording medium of claim 67, wherein the recording layer is heated to a temperature of at or between 400 and 490°C.

69. (NEW) The recording medium of claim 67, wherein the recording layer is irradiated with a red or a blue laser beam.

70. (NEW) The recording medium of claim 67, wherein the recording layer is a magnetic recording layer.

71. (NEW) The recording medium of claim 67, wherein the recording layer is formed of a rate earth transition metal.

72. (NEW) The recording medium of claim 71, wherein the rare earth transition metal is TbFeCo.